

Claims

1. A method for producing a pressure pipe of a tractive solenoid for a hydraulic valve, which pressure pipe has a pole piece (31), a nonmagnetic intermediary piece (33), a tubular piece (35), and a stroke limiter (36), and has a receptacle (37) for an armature (38) that cooperates with a tappet (39), characterized in that the nonmagnetic intermediary piece (33) is thermally joined at its ends to the pole piece (31) and the tubular piece (35) in such a way that after the joining, a sliding surface (43) for the armature (38) is formed.
2. The method according to claim 1, characterized in that the intermediate piece (33) is welded to the pole piece (31) and the tubular piece (35).
3. The method according to claim 2, characterized in that a capacitor discharge welding process is used.
4. The method according to one of claims 1 to 3, characterized in that the pole piece (31), the intermediate piece (33), and the tubular piece (35) are vertically aligned during the joining process.
5. The method according to one of claims 1 to 4, characterized in that the armature (38) is introduced into the receptacle region (37) before the pole piece (31), the intermediate piece (33), and the tubular piece (35) are joined to one another.
6. The method according to one of claims 1 to 5, characterized in that the stroke limiter (36) is thermally joined to the tubular piece (35).
7. The method according to one of claims 1 to 6, characterized in that the stroke limiter (36) and the tubular piece (35) are made of one piece.

8. A pressure pipe of a tractive solenoid for a hydraulic valve, with a pole piece (31), a nonmagnetic intermediary piece (33), a tubular piece (35), a stroke limiter (36), and a receptacle (37) for an armature (38) that cooperates with a tappet (39), characterized in that the tubular piece (35) and the stroke limiter (36) are embodied of one piece and the pole piece (31), the intermediate piece (33), and the tubular piece (35) are thermally joined to one another.

9. The pressure pipe according to claim 8, characterized in that centering means (44, 45, 46, 47) are provided in the connecting region between the pole piece (31) and the intermediate piece (33) and between the intermediate piece (33) and the tubular piece (35).

10. The pressure pipe according to claim 9, characterized in that the centering means include at least one annular bead (46, 47) and at least one annular groove (44, 45) corresponding to this bead.

11. A pressure pipe of a tractive solenoid for a hydraulic valve, with a tubular piece (35) and a stroke limiter (36), characterized in that the stroke limiter (36) is thermally joined to the tubular piece (35) by means of a capacitor discharge welding process.

12. The pressure pipe according to claim 11, characterized in that the stroke limiter (36) rests with a circumference edge (52) against a radially inner beveled surface (54) and an annular seam (70) is produced in this region by means of thermal joining.

13. The pressure pipe according to claim 11 or 12, characterized in that the stroke limiter (36) is embraced in certain sections by an insulating guide sleeve (56), which is disposed in an annular recess (86) and is spaced axially apart from the annular seam 70.

14. The pressure pipe according to one of claims 11, 12, or 13,
characterized in that an annular turned bore (50) is provided in the end surface
of the stroke limiter (36) oriented toward the armature (38), in the vicinity of the
5 annular seam (70).

15. The pressure pipe according to one of claims 11 to 14, characterized
in that the tubular piece (35) is made of a soft magnetic material and the stroke
limiter (36) is made of a nonmagnetic austenitic steel.

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16. The pressure pipe according to one of claims 11 to 15, characterized
in that a path-measuring device (60) is integrated into the pressure pipe (30) and
is preferably provided on the end surface of the stroke limiter (36).